

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1-15 (Cancelled).

16. **(Currently Amended)** A system for converting CO and H₂ into Fischer-Tropsch products through a ~~the~~ Fischer-Tropsch reaction, the system comprising:

an inlet;

a reactor fluidly coupled to the inlet for receiving CO and H₂;

a stationary, structured Fischer-Tropsch catalyst disposed within the reactor for converting at least a portion of the CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction; ~~and~~

~~wherein~~ the structured catalyst comprising ~~has~~ a voidage ratio greater than or equal to 0.6; and

the structured Fischer-Tropsch catalyst disposed within the reactor comprises at least a catalyst concentration of thirty percent.

17. **(Cancelled)** Please cancel Claim 17 without prejudice or disclaimer.

18. **(Currently Amended)** A system for converting CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction, the system comprising:

an inlet;

a reactor fluidly coupled to the inlet for receiving CO and H₂;

a stationary, structured Fischer-Tropsch catalyst disposed within the reactor for converting at least a portion of the CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction;

the structured catalyst comprising a voidage ratio greater than or equal to 0.6;
and

~~The system of Claim 16 wherein~~ the structured Fischer-Tropsch catalyst comprises
~~has~~ a linear dimension of at least 500 microns.

19. (Original) A system for converting shorter-chain hydrocarbons into longer-chain hydrocarbons, the system comprising:

a feed stream preparation subsystem for receiving an oxygen-containing gas, light hydrocarbons, water, and tail gas, and preparing the feed streams for conversion to synthesis gas;

a synthesis-gas subsystem for receiving feed streams of oxygen-containing gas, light hydrocarbons, and steam and preparing therefrom synthesis gas;

a synthesis subsystem for receiving synthesis gas from the synthesis-gas subsystem and for converting at least a substantial portion of the synthesis gas into longer-chain hydrocarbons through the Fischer-Tropsch reaction; and

wherein the synthesis subsystem comprises:

a saturator unit having an inlet for receiving a circulating hydrocarbon liquid and an inlet for receiving synthesis gas, the saturator for substantially saturating a hydrocarbon liquid with synthesis gas introduced into the saturator;

a reactor fluidly coupled to the saturator unit for receiving a saturated hydrocarbon liquid therefrom; and

a stationary, structured Fischer-Tropsch catalyst disposed within the reactor for converting at least a portion of a saturated hydrocarbon liquid into longer-chain hydrocarbons.

20. (Original) A system for converting synthesis gas into longer-chain hydrocarbon products through the Fisher-Tropsch reaction, the system comprising:

a saturator unit having an inlet for receiving a circulating hydrocarbon liquid and an inlet for receiving synthesis gas, the saturator for substantially saturating a hydrocarbon liquid with synthesis gas introduced into the saturator;

a reactor fluidly coupled to the saturator unit for receiving a saturated hydrocarbon liquid therefrom; and

a stationary, structured Fischer Tropsch catalyst disposed within the reactor for converting at least a portion of a saturated hydrocarbon liquid into longer-chain hydrocarbons through a Fischer-Tropsch reaction.

21. (Original) The system of Claim 20 further comprising a heat exchanger associated with the reactor for removing heat from the reactor.

22-25. (Cancelled).

26. (New) **A system for converting CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction, the system comprising:**

an inlet;

a reactor fluidly coupled to the inlet for receiving CO and H₂;

a stationary, structured Fischer-Tropsch catalyst disposed within the reactor for converting at least a portion of the CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction; and

the structured Fischer-Tropsch catalyst disposed within the reactor comprises at least a catalyst concentration of thirty percent.

27. (New) A system for converting CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction, the system comprising:

an inlet;

a reactor fluidly coupled to the inlet for receiving CO and H₂;

a stationary, structured Fischer-Tropsch catalyst disposed within the reactor for converting at least a portion of the CO and H₂ into Fischer-Tropsch products through a Fischer-Tropsch reaction; and

the structured catalyst comprising a linear dimension of at least five hundred microns.